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Renal denervation for hypertension management in the UK: a Delphi expert consensus

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ABSTRACT

Background Renal denervation (RDN) has emerged as a guideline-recommended therapeutic option in hypertension management with several high-quality, randomised, placebo-controlled trials demonstrating efficacy and safety. However, the lack of expert consensus on patient selection for RDN in the UK has led to debate regarding its use. This study aimed to establish a multidisciplinary consensus to provide clinicians and commissioners with guidance on the appropriate use of RDN in hypertension management within the UK.

Methods The project used a modified Delphi method. A steering group (SG) of seven clinicians in cardiology, clinical pharmacology, radiology, nephrology and general practice, all experienced in managing patients with hypertension, convened in June 2024. The SG aligned on 40 consensus statements covering key topics (patient identification and selection, multidisciplinary team collaboration, commissioning and guidelines, training and education and awareness of RDN). The statements were distributed as an online survey to UK clinicians involved in hypertension management. Respondents assessed their level of agreement using a four-point Likert scale. Consensus was predefined as 75% agreement. The surveys were collated anonymously and independently analysed. The results were shared with the SG in November and December 2024.

Results A total of 125 responses were received from interventional cardiologists and radiologists, cardiologists, clinical pharmacologists and nephrologists across various regions of the UK.
Consensus was achieved for 37 out of 40 statements (93%). Based on the consensus scores, 11 key recommendations were developed by the SG regarding patient selection, multidisciplinary collaboration, clinician training and commissioning for RDN.

Conclusions This expert consensus defines patient selection criteria for RDN and provides 11 recommendations to support its use. RDN should be considered for resistant hypertension or intolerance to medications, using a multidisciplinary approach. Implementation of these recommendations could guide clinical practice, inform commissioning and support National Institute for Health and Care Excellence reviews, ultimately improving patient access across the UK.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Renal denervation (RDN) is recommended as an adjunct treatment option for uncontrolled hypertension, including resistant hypertension, based on recent European hypertension guidelines. However, the UK does not have up-to-date guidance on the use of RDN, and so, this multidisciplinary consensus was undertaken to establish agreement on what the appropriate use of RDN should look like in the UK.

WHAT THIS STUDY ADDS

⇒ This study generated consensus from 125 UK clinicians managing patients with hypertension in the UK and provides a series of actionable recommendations on appropriate patient selection, multidisciplinary assessment, clinician training and the commissioning and auditing of RDN.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The recommendations from this study could improve outcomes for patients with uncontrolled hypertension by informing National Institute for Health and Care Excellence guidance, supporting commissioning policies and ensuring appropriate patient selection, clinician training and multidisciplinary management.

INTRODUCTION

Hypertension is the leading modifiable risk factor for cardiovascular disease (CVD) worldwide.[1 2] In the UK, approximately 30% of adults are affected, with around one-third failing to reach recommended blood pressure (BP) targets.[3] These individuals face a 50% higher risk of CVD and kidney disease.[4] Despite efforts to optimise BP, a proportion of hypertensive individuals present with resistant hypertension (RH), defined by the National Institute for Health and Care Excellence (NICE) as BP, which remains uncontrolled (office BP ≥ 140/90 mm Hg/out-of-office ≥135/85 mm Hg), despite taking optimal doses of at least three antihypertensive medications (including a thiazide-like diuretic).[5] The prevalence of RH varies depending on definitions and is estimated to affect approximately 5–10% of hypertension patients.[6]

With hypertension rates rising, additional treatment options beyond medications and lifestyle are needed.[7] Renal denervation (RDN) is a

catheter-based procedure that targets the sympathetic nerves surrounding the renal arteries. By disrupting both efferent and afferent sympathetic signalling between the kidneys and the central nervous system, RDN has been shown to lower BP.[8] First-generation placebo-controlled RDN trials showed neutral results.[9] Subsequent refinements in trial design have led to more robust studies, and second-generation placebo-controlled trials and registry data have consistently demonstrated the safety of RDN and its ability to achieve meaningful, sustained BP reductions, with consistent results across different technologies.[8 10–17]

There is increasing recognition for RDN as an adjunct treatment for uncontrolled hypertension (UH, which includes RH and those intolerant to antihypertensive medications). RDN is now recommended for clinical use in several international guidelines and consensus statements.[18–28] The 2023 European Society of Hypertension (ESH) guidelines and the 2024 European Society of Cardiology (ESC) hypertension guidelines now recognise RDN as a treatment option for patients with UH despite lifestyle modifications and drug therapy and emphasise that patient selection should involve shared decision-making. UK recommendations on the use of RDN predominantly come from the latest NICE interventional procedure guidance (IPG) of RDN in RH[29] and the British and Irish Hypertension Society position statement on RH management.[6]

Given the absence of a contemporary UK consensus reflecting current evidence, there is a clear need to define the role of RDN in hypertension management. Establishing such agreement will guide clinicians and commissioners on its appropriate use and inform future policy and guideline development. This study used a modified Delphi method to gather UK clinicians' perspectives and develop consensus on suitable patient populations for RDN, recognising that structured expert consensus provides greater reliability than individual opinion.[30]

METHODS

A modified Delphi methodology (figure 1) was employed, facilitated by an independent third party (Triducive Partners Limited), and reporting follows the Accurate Consensus Reporting Document guidelines.[31] The study was not registered.

In May 2024, a targeted literature review on RDN in hypertension management was conducted using PubMed and Google Scholar, focusing on clinical trials, reviews and guidelines published within the past 5 years. Search terms included, but were not limited to, benefits of RDN, clinical need for RDN and RDN guidelines. Findings from this review informed the study's aims and scope and the development of discussion points for the steering group (SG).

A SG of UK specialists (two interventional cardiologists, one consultant cardiologist, one clinical pharmacologist, one interventional radiologist, one consultant nephrologist, one general practitioner) with experience across cardiovascular medicine, nephrology and hypertension management convened in June 2024. The SG was selected based on published research, clinical experience and engagement with guideline development. Clinicians with diverse academic and professional backgrounds were involved to ensure a comprehensive range of perspectives was considered.

During discussions, the SG identified five key topics of focus:

1. Patient identification and selection.
2. Multidisciplinary team () collaboration.
3. Commissioning and guidelines.
4. Training and education.
5. Awareness (including technology).

These were debated and the SG collaboratively suggested consensus statements. The statements were independently and anonymously rated by the SG members as either 'accept', 'remove' or 'reword'. Qualitative feedback was allowed, and responses were collated and actioned by the facilitator. The amended statements were recirculated for final approval.

The resulting 40 statements were developed into a Likert survey, which was then distributed by a third party (M3 Global Research). The survey presented statements alongside a four-point *Likert* scale. Stopping criteria were defined a priori as a 1-month survey window, a minimum target of 100 responses, 90% of statements meeting the consensus threshold and a consensus threshold set at 75%, in line with widely accepted standards.[32] These criteria were established to gain the required number of responses while accounting for time pressures within the healthcare system.

Clinicians registered to the M3 panel with relevant experience were invited via email to complete the survey on a 'first come first served' basis. Eligible respondents were required to be UK-based, knowledgeable about hypertension treatment guidelines and actively involved in hypertension patient care. Participation was voluntary and anonymous; no personal identifiers were collected and only aggregated demographic data (region,

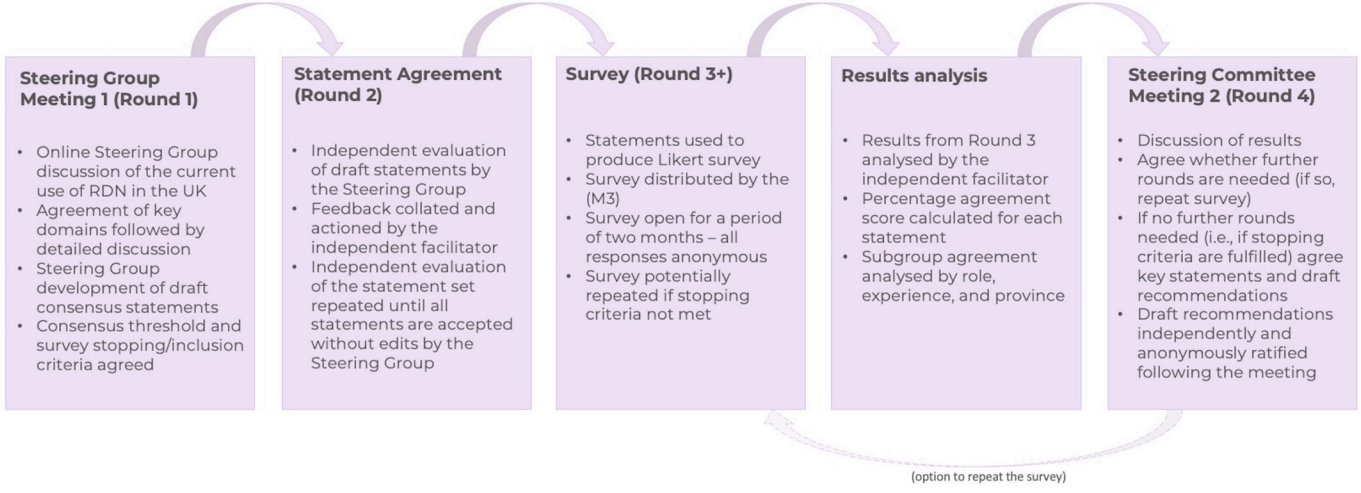

Figure 1 Modified Delphi study design. RDN, renal denervation.

role, experience, patient volume and RDN involvement) were shared with the SG. A statement of consent was included at the start of the survey, and consent was implied by completion of the survey. As this study only collected the anonymous opinions of healthcare professionals and no patient-specific data were captured, ethical approval was not sought. The survey was piloted with 10% of participants, with all pilot data included in the final analysis. Responses were screened for eligibility, completion time (≥2.5 min) and consistency to ensure data validity. A nominal fee was provided for participation.

Completed surveys were analysed to produce an agreement score for each statement. Results were reviewed by the members of the SG in a series of meetings across November–December 2024. The group confirmed that the stopping criteria had been met, determined key conclusions and developed recommendations based on the levels of agreement. These recommendations were ratified independently by the group during manuscript development.

RESULTS

From the initially drafted 48 statements, 11 were removed, 31 were modified and agreed, three new statements were added and seven were accepted without modification, resulting in a final set of 40 statements for testing with a wider panel of experts.

For the survey, 530 individuals were invited and 160 responded (response rate 30%). Of these, 125 responses were analysed, and 35 were excluded as respondents stated either unfamiliarity with hypertension management guidelines or that they did not currently manage hypertension patients. Analysed responses included 40 interventional cardiologists and 36 interventional radiologists with predominantly 11–20 years of experience in role (n=63, 50%), managing ≥50 hypertension patients per month (n=73, 58%). The majority of respondents indicated involvement in referrals for RDN or conducted RDN procedures (n=99, 79%). The greatest representation was from London (n=32, 26%) followed by the Midlands (n=19, 15%). Full demographic data are presented in online supplemental figures 1–7.

Survey results showed very strong agreement (≥90%) in 29 (73%) statements and strong agreement (<90% and ≥75%) in eight (20%) statements. Only three (7%) statements failed to achieve consensus (<75%). Overall consensus results are illustrated in online supplemental figure 8. Table 1 presents the statements with mean agreement scores. The full distribution of consensus scores on the four-point *Likert* scale is in online supplemental figure 9. As the stopping criteria were satisfied, no additional testing rounds were conducted.

Subanalyses were conducted to assess differences in agreement across demographics, investigating variations of ±10% from the mean. The results are presented in online supplemental tables 1–4. These results demonstrated that nephrologists and those with fewer years of experience in role were less agreeable.

The agreement between interventionalists (combined interventional cardiologists/radiologists) was compared with other responder types (figure 2). Very high concordance in agreement was observed. Variations in responses were assessed between clinicians with prior experience in RDN referral or procedures and those with no prior involvement. Clinicians involved in RDN referral or procedures tended to have higher agreement (online supplemental table 5). Subanalyses suggest that while there was generally strong alignment, those with more clinical experience in RDN were more agreeable.

DISCUSSION

Patient Identification and selection

Topic 1 demonstrated consensus on the importance of careful patient selection, shared decision-making and standardised pre-procedural assessments. There was strong consensus that RDN should be considered for patients with RH (S1, 92%), but also for those intolerant to antihypertensive medications (S2, 91%). These findings align with ESH and ESC guidelines, highlighting the need for UK guidelines and commissioning policies to update RDN eligibility criteria.

There was less agreement on offering RDN to patients who do not wish to take antihypertensives (S3, 55%), which is notable given the importance of shared decision-making in determining RDN suitability (S5, 96%). Discrepancies here may reflect the role of patient preference and shared decision-making within a tax-funded healthcare system like the National Health Service (NHS), where treatment decisions are often guided by clinical need and cost-effectiveness. It also suggests that UK clinicians may distinguish these patients from those with genuine intolerance to antihypertensives. In patients who have reached the limits of pharmaceutical and lifestyle interventions, RDN should be considered a viable option to prevent hypertension-mediated organ damage.[18 21] Patients who refuse antihypertensive treatments have a continuing clinical risk that has not been modified and may develop complications with higher long-term costs.

S4 (88%), which stated '*RDN may improve CV outcomes (considering BP is an accepted surrogate marker for reduced CV outcomes*)', achieved consensus, aligning with epidemiological studies demonstrating a relationship between BP and CVD risk.[33 34] Recent large-scale meta-analyses have shown that BP reductions of 5 mm Hg and 10 mm Hg lower major CV event risk by 10% and 20%, respectively.[35 36] This reinforces BP as a reliable surrogate marker for reducing CV morbidity and mortality[37] and justifies why BP reductions of 5–10 mm Hg are considered clinically meaningful.[38] When using BP as a marker, there has been a shift towards the use of longitudinal BP rather than 'single occasion' BP.[39] The link between BP and CV risk is complex, and using BP as a surrogate marker is complicated by intraindividual variability in BP and variability in responses to antihypertensives.[40] While BP reduction is typically a strong predictor of CV benefit, it does not guarantee improved patient outcomes. The agreement with S4 reflects clinicians' preference for hard clinical outcomes over surrogate markers and a broader scepticism about relying on surrogate endpoints. It is possible that respondents agreed with the potential for RDN to improve CV outcomes but were less certain about BP being universally accepted as a marker for CV risk reduction.

Multidisciplinary collaboration

All statements in topic 2 achieved over 90% agreement, highlighting the importance of taking a multimodal, multidisciplinary approach for the broader management of hypertension when considering the use of RDN. There was very strong consensus that multidisciplinary collaboration should include at least one hypertension expert and one interventional cardiologist or radiologist to ensure the appropriate patient selection for RDN (S11 and S12; 98%). This is not surprising as the use of MDTs for hypertension management and CV risk prevention is well established.[41] Recent European guidance on the use of RDN stated that hypertension teams should involve hypertension experts and interventionalists.[18]

The current study also explored consensus on RDN training for practitioners. There was strong consensus on the need for

Table 1 Defined consensus statements and corresponding levels of agreement.

No	Statement	Agreement score
Topic 1: patient identification and selection		
1.	Renal denervation (RDN) should be considered an option for patients with resistant hypertension (HTN).	92%
2.	RDN should be considered an option for patients with hypertension who are intolerant to antihypertensive medications.	91%
3.	RDN should be considered an option for patients who do not wish to take antihypertensive medication.	55%
4.	RDN may improve cardiovascular (CV) outcomes (considering that blood pressure reduction is an accepted surrogate marker for a reduction in CV outcomes).	88%
5.	Shared decision making between patients and healthcare professionals is key for establishing suitability for RDN.	96%
6.	Patient selection should be based on decisions made by a multidisciplinary team following comprehensive evaluation for suitability.	95%
7.	The decision-making process for RDN should consider the patient's CV risk.	97%
8.	The decision-making process for RDN should consider whether patients have HTN-mediated organ damage.	98%
9.	The decision-making process for RDN should consider whether patients have HTN-related CV complications.	98%
10.	Standardised pre-procedural assessments should include investigation for secondary HTN (including up-to-date renal artery imaging) and the exclusion of 'white coat effect'.	98%
Topic 2: multidisciplinary team collaboration		
11.	Multidisciplinary (MD) collaboration should involve hypertension experts and interventionalists with an interest in managing HTN and performing renal intervention.	98%
12.	The minimum standard for MD collaboration should include an HTN specialist and an interventionist (interventional cardiologist or interventional radiologist).	98%
13.	MD collaboration should be formally documented within the medical records and communicated to the patient and the primary care physician.	98%
14.	RDN should only be performed by skilled practitioners, with adequate training in RDN and appropriate experience, to reduce complications.	99%
15.	RDN should only be performed independently by individuals who have undertaken at least five procedures with a proctor (eg, the device's clinical specialist/technical consultant or an experienced practitioner) in their first year of performing procedures.	94%
16.	Continued competency for RDN should be mandated by completing at least five procedures per year.	94%
17.	RDN should only be performed if there is a protocol and equipment in place to deal with any potential endovascular or procedural complications.	99%
Topic 3: commissioning and guidelines		
18.	Following the Joint UK Societies 2019 consensus statement on RDN, several high-quality studies (including randomised placebo-controlled trials) have been published confirming the efficacy and safety of RDN.	87%
19.	There is sufficient evidence for RDN to be commissioned for patients with HTN.	82%
20.	There is sufficient evidence for RDN to be commissioned for patients who cannot tolerate antihypertensive medication.	78%
21.	There is sufficient evidence for RDN to be commissioned for patients who do not wish to take antihypertensive medication.	54%
22.	NHS commissioning policies for RDN should be updated to reflect modern technologies and emerging evidence.	93%
23.	Commissioning should be provided to current specialist RDN centres, with the aim of enabling additional funding across the UK as new specialist centres are developed.	92%
24.	Commissioning should be directed towards centres with appropriate experience and expertise (eg, MD with HTN specialist).	98%
25.	There is sufficient up-to-date guidance on RDN (eg, ESH and ESC HTN guidelines and NICE IPG).	81%
26.	The current guidelines on RDN (ESH and ESC HTN guidelines and NICE IPG) are adequate but cannot be implemented due to lack of NHS funding.	73%
27.	The current guidelines on RDN are adequate but would be strengthened with endorsement from British professional societies.	81%
Topic 4: training and education		
28.	Training and case-based procedural planning should involve collaboration between interventionalists (eg, interventional cardiologist and interventional radiologist) to ensure optimal procedure outcomes and minimise risks.	96%
29.	Interventionalists (eg, interventional cardiologists and interventional radiologists) should assist with training RDN specialists to ensure optimal procedural outcomes and minimise risks.	97%
30.	Training for RDN should primarily be conducted on a peer-to-peer basis among healthcare professionals rather than a qualified industry representative.	83%
31.	Where peer proctoring among healthcare professionals is unavailable, training from a qualified industry representative is acceptable.	77%
32.	RDN specialists should aim to understand the procedural nuances of one type of RDN device before expanding their practice to incorporate other devices	96%
33.	Training programmes should be implemented to educate hypertension specialists about RDN, ensuring they are equipped to identify suitable candidates and discuss the treatment with patients.	97%
34.	There should be a UK-wide registry for RDN procedures to facilitate independent auditing and monitoring for complications.	100%
Topic 5: awareness (including technology)		
35.	It is important to engage with both supporters and sceptics of RDN by providing clear, evidence-based information to address any misconceptions, while acknowledging and respecting well-informed critiques.	99%
36.	There needs to be better dissemination of current UK and international guidance pertaining to RDN to ensure these guidelines are appropriately implemented.	98%
37.	Clinicians must involve patients in the decision-making process and ensure they are aware of the different outcomes related to RDN.	97%
38.	General practitioners should be aware there are alternative interventions in HTN management and should seek specialist advice/refer to specialist centres in line with NICE Guidelines on Hypertension NG136.	93%

Continued

Table 1 Continued

No	Statement	Agreement score
39.	It is important to include RDN into the NICE Guideline for Hypertension NG136 with clear guidance on patient selection and referral criteria to enhance the management of HTN and improve patient outcomes.	**93%**
40.	It is essential for clinicians involved in RDN to be aware of the latest clinical and cost-effectiveness data on RDN to make well-informed decisions and provide the best possible care for patients with hypertension.	**98%**

The cells highlighted in green are very strong agreement ≥90%, the cells in red are for statements which did not meet the consensus threshold are <75%.
ESC, European Society of Cardiology; ESH, European Society of Hypertension; IPG, interventional procedure guidance; NHS, National Health Service; NICE, National Institute for Health and Care Excellence.

training (S14, 99%), undertaking procedures under proctor supervision before operating independently (S15, 94%) and ongoing competency training (S16, 94%). The SG discussed the appropriate number of proctored procedures and the need for mandatory competency training, agreeing that completing five supervised procedures was a reasonable requirement given the current patient volume undergoing RDN.

Commissioning and guidelines

The agreement on statements regarding commissioning and guidelines (topic 3) was less consistent. Most respondents agreed that current guidelines on RDN are sufficient (S25, 81%). There was lower agreement on whether funding was a barrier to implementation (S26, 73%), suggesting that clinicians may believe other factors also limit RDN adoption. There was very strong consensus for updating the existing commissioning policy to reflect emerging evidence (S22, 93%), maintaining and expanding specialist RDN centres (S23, 92%) and ensuring centres have appropriate MDT expertise (S24, 98%). Findings highlight that while current guidance may be considered adequate, clinicians believe a revised commissioning policy is necessary to support the appropriate RDN use in the UK.

Respondents agreed that there is now sufficient evidence to support commissioning RDN for patients with RH (S19, 82%) and those intolerant to antihypertensive medication (S20, 78%). Interventionalists showed higher agreement that evidence supports offering RDN to patients who cannot tolerate antihypertensives (S20, 83%) compared with other clinicians (69%), potentially due to their greater familiarity with RDN data and trials. This highlights the need to increase RDN awareness among non-interventionalists. There was less agreement in offering RDN to patients who do not wish to take antihypertensives (S21, 54%), reflecting uncertainty regarding the role of RDN in these patients. Evidence from placebo-controlled trials conducted in medication-free or drug-naïve patients[12] could serve as a proxy for the potential benefit of offering RDN to this population, but further clarification is needed.

Training and education

Agreement in topic 4 reinforced the importance of multidisciplinary approaches in procedural planning to maximise outcomes and minimise risks (S28, 96%; S29, 97%). There was a strong consensus on the necessity of structured training. Respondents generally favoured peer-to-peer training (S30, 83%) compared with industry-led training (S31, 77%). Interventionalists were slightly less supportive of both approaches (S30, 79%; S31, 74%) compared with non-interventionalists (S30, 90%; S31, 82%). While the interpretation of these statements may vary, there is a clear need to distinguish between industry support and industry influence. It is strongly emphasised that patient

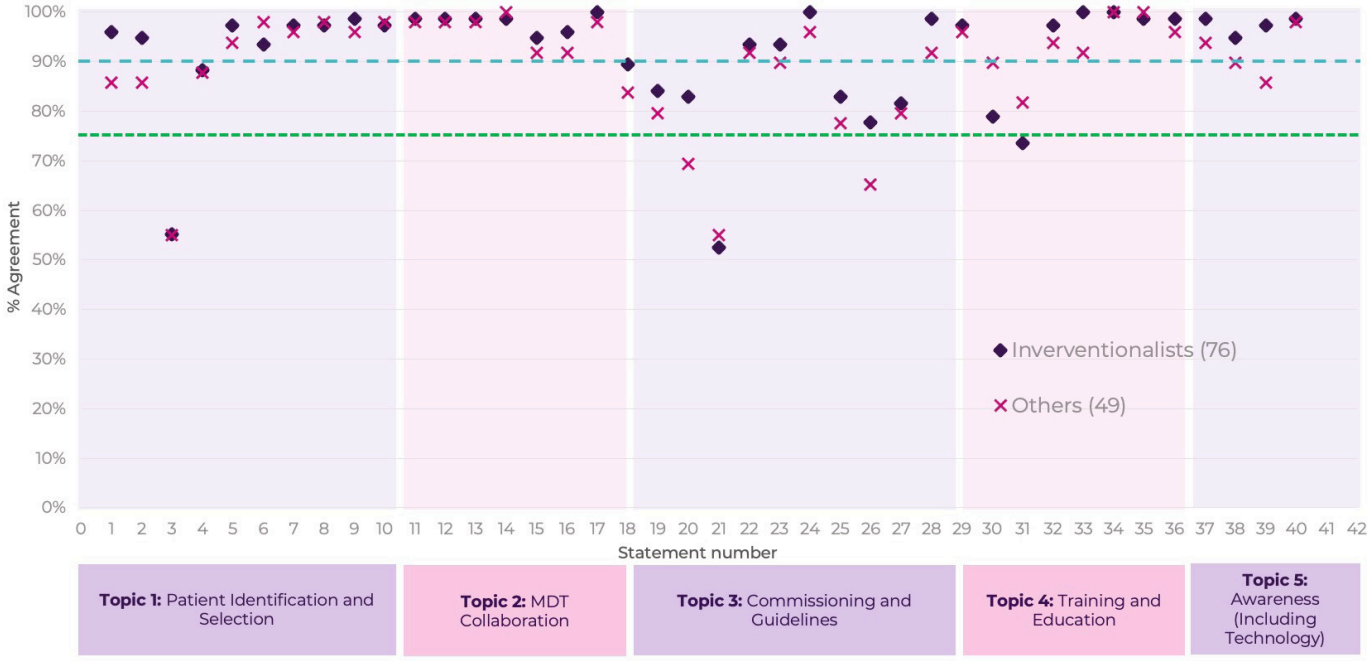

Figure 2 Comparison of the agreement levels between interventionalists (combined interventional cardiologists and radiologists) and all other respondent types. The threshold for consensus is depicted by the green line (75%). The blue line signifies the threshold for very strong agreement (90%). MDT, multidisciplinary team.

selection should remain independent from industry involvement. However, given that RDN is not yet a routine procedure, the presence of industry professionals during procedures can still be helpful to provide technical expertise.

Awareness (including technology)

Results repeatedly showed that clinicians with more experience using RDN as a treatment option were more likely to support its use, aligning with the consensus that efforts should be made to engage both supporters and sceptics of RDN with evidence-based information (S35, 99%; S40, 98%) to ensure that RDN guidelines are disseminated and implemented (S36, 98%; S38, 93%). While the ESC, ESH and NICE IPG were referenced in the statements, there was strong support for updating NICE's hypertension guidelines (NG136) to include RDN. Given the broad scope of NICE's hypertension guidelines, a more realistic goal would be updating NICE's IPG to reflect current evidence[8 10–17] and incorporate insights from international perspectives.[18–21 23–28]

Overall, respondents strongly emphasised the importance of raising awareness of updated evidence on RDN to support the implementation of guidelines and updates to commissioning policy. There was agreement that endorsement from British professional societies would help strengthen guidance on RDN (S27 81%). There was unanimous agreement for the establishment of a UK-wide registry for RDN procedures to facilitate auditing, monitoring for complications and the collection of real-world evidence in the UK (S34, 100%). Such a registry would provide transparent data to support clinician and patient education, enhance clinical decision-making and inform policy development to ensure appropriate use of RDN.

Strengths and limitations

This study included a diverse cohort of UK clinicians from multiple disciplines experienced in hypertension management. Comparable levels of agreement between interventionalists and non-interventionalists indicate that consensus was not driven by those performing the procedure. Geographic diversity further supports generalisability. To minimise bias, the survey was distributed by a third party, ensuring anonymity and independence from the SG. Responses were screened for authenticity using pattern analysis and a minimum completion time. A four-point Likert scale was employed to avoid neutral responses, though this may have reduced response nuance.

A potential limitation is response bias, as clinicians with greater interest or experience in RDN may have been more likely to participate. Nonetheless, variation across specialties, particularly among nephrologists, suggests a range of perspectives was captured. While including clinicians with limited RDN exposure might have broadened opinions, it could also have reduced validity due to limited familiarity with the procedure. Importantly, by not restricting participation to those directly performing or referring for RDN, the study incorporated diverse views across hypertension specialists. Future research could further include clinical pharmacologists, given their key role in hypertension management.

RECOMMENDATIONS

Based on the survey findings, focusing on statements that achieved very strong consensus (≥90% agreement), the following recommendations are proposed:

1. Patient eligibility: RDN should be considered for patients with RH and those who are intolerant to antihypertensive medications.
2. Multidisciplinary evaluation: suitability for RDN should be determined through a comprehensive evaluation by a MDT, considering factors such as cardiovascular risk, hypertension-related organ damage and patient preferences.
3. Multidisciplinary composition: effective multidisciplinary collaboration should involve specialists with experience in hypertension management and interventional procedures.
4. Patient involvement: shared decision-making should be integral to the RDN treatment process. Clinicians should fully inform patients about the potential benefits, risks and expected outcomes of the procedure to ensure informed consent and patient-centred care.
5. Training and education: mandatory training should be required for clinicians performing RDN. Practitioners should conduct at least five proctored procedures before performing RDN independently, and ongoing competency should be maintained by completing a minimum of five procedures annually.
6. NHS commissioning policy update: the existing NHS commissioning policy for RDN should be updated to reflect advancements in technology and emerging evidence.
7. Specialist centres: commissioning should prioritise existing specialist RDN centres, with plans to expand funding across the UK as new specialist centres are established.
8. Centre selection criteria: commissioning should be directed towards centres with appropriate experience and expertise (eg, including a MDT with hypertension specialists).
9. Interdisciplinary collaboration: training and procedural planning should involve collaboration between interventionalists and hypertension specialists to optimise patient outcomes.
10. UK RDN registry: a UK-wide registry for RDN procedures should be established to facilitate independent auditing, complication monitoring and long-term outcomes assessment.
11. Education and awareness: efforts should be increased to provide comprehensive, evidence-based information on RDN, targeting both supporters and sceptics. Educational initiatives should address misconceptions, present clinical and cost-effectiveness data and incorporate well-informed critiques.

These recommendations aim to support evidence-based integration of RDN into clinical practice, ensure equitable patient access and align UK policies with contemporary evidence and clinical guidance.

CONCLUSION

This study achieved consensus among 125 healthcare professionals across the UK, all currently involved in hypertension management, with agreement reached on 37/40 statements. The diverse range of specialities represented and the strong levels of concordance between interventionalists and non-interventionalists reinforce the robustness of the findings. While agreement levels were slightly higher among clinicians with more experience in RDN, the results indicate widespread support for its use in appropriate patients. The consensus-based recommendations define the appropriate patient population for RDN, while also addressing strategies to improve access and ensure that clinicians receive adequate training. There is clear support within the UK for integrating RDN into hypertension management, particularly for patients with RH and those who cannot tolerate antihypertensive medications, as part of a comprehensive treatment approach. The findings highlight the need for

updated NICE guidance and commissioning policies to support the effective and equitable implementation of RDN across the UK. Establishing clear and contemporary policies will be essential to ensuring appropriate patient access and optimising the role of RDN in hypertension management.

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Contributors All authors developed the initial statements, contributed to the analysis and discussion of results equally and read and approved the final manuscript. PAJH is the guarantor for this work.

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Competing interests All authors received honouraria from Medtronic while undertaking this study. The authors state the following conflicts of interest: PH has received speaker fees and teaching fees from Medtronic. RAL has received an honourarium for advisory boards from Abbott, Janssen, Medtronic, Philips and Shockwave. CB has received advisory board fees from Medtronic. TM is an advisor and investigator for AstraZeneca and Medtronic, and sub-investigator for Alnylam, in respect to the management of resistant hypertension. TM has received speaker and travel fees from Amarin, AstraZeneca, Bayer, Daiichi Sankyo, MediConf, Medscape, Medtronic, OmniMed and Novartis. TM was a guideline committee member for NICE NG126 (hypertension) and he is the immediate Past President of the British and Irish Hypertension Society. KR's institution has received funding from the European Union, British Heart Foundation, Medical Research Council, National Institute for Health Research, Novo Nordisk and Roche. KR has received royalties from Lucem, speaker fees from Radcliffe Cardiology, advisory board fees from Medtronic (for renal denervation), and is the current Editor-in-Chief of Heart. The following authors state no conflicts of interest: NC and ID.

Patient and public involvement Patients and/or the public were not involved in the design, conduct, reporting or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants but this study did not require registration because neither the assigned interventions nor the outcomes assessed were related to the health of participants. All participants were informed of the study's purpose and consent to participate was assumed by completing the survey. All responses were anonymous, and no protected characteristics were captured. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information.

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